

POSTER PRESENTATION

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An in vitro tumor-fibroblast interaction model of human oral squamous cell carcinoma

Jozséf Dudás*, M Bitsche, V Schartinger, GM Sprinzl, H Riechelmann

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Carcinoma associated fibroblasts (CAFs) have recently been implicated in neoplastic progression, tumor growth, angiogenesis, and metastasis. This special fibroblast subpopulation plays a major role in initiation of tumor progression of head and neck squamous cell carcinoma.

We established a co-culture model of SCC-25 lingual squamous cell carcinoma cells and periodontal ligament fibroblasts. Gene expression changes were analyzed by real-time PCR, western blot and immunocytochemistry. During 7 days' co-culture CAFs were converted from normal fibroblasts showing sustained expression of stroma-derived factor. We found that CAFs produced experimentally within such a short time, induced epithelial-mesenchymal transdifferentiation (EMT) of SCC-25 cells in co-culture. EMT-SCC-25 cells showed increased expression of vimentin and the transcription factor snail, and decreased expression of E-cadherin.

These results indicated that CAF-conversion of oral fibroblasts and EMT of oral squamous cell carcinoma cells are coordinated events and could be reliably modeled in vitro.

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* Correspondence: jozsef.dudas@i-med.ac.at
Department of Otorhinology, Medical University of Innsbruck, Innsbruck, Austria
Full list of author information is available at the end of the article

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